

# USGS In Florida: New Places, New Faces

## Getting Building Dedicated

The USGS and the University of South Florida have dedicated the **Paul L. Getting Building**, which, together with the historical Studebaker Building, houses the USGS Center for Coastal Geology and Regional Marine Studies on the University of South Florida campus in St. Petersburg.

The new building significantly increases the capability of the Center to conduct research on important societal problems such as coastal erosion, deterioration of coastal ecosystems, pollution, and climate change. Paul L. Getting, for whom the building is named, was the executive vice-president of the St. Petersburg Area Chamber of Commerce, and was instrumental in convincing the USGS to come to St. Petersburg in 1988.

**Bonnie McGregor**, associate director for Programs, and **Abby Sallenger**, center director, participated in the January 27 dedication ceremony along with University of South Florida President **Betty Castor**. About 225 people attended the ceremony including Chief Geologist **Pat Leahy**, Regional Geologist **Christine Turner**, and State Representative **John Vecchioli**.



At far left, Bonnie McGregor, USGS associate director for programs, and Abby Sallenger, near left, director, USGS Center for Coastal Geology and Regional Marine Studies, address the more than 200 guests, below, who attended the dedication of the Paul L. Getting Building in St. Petersburg, Florida. The building is shown at lower left.



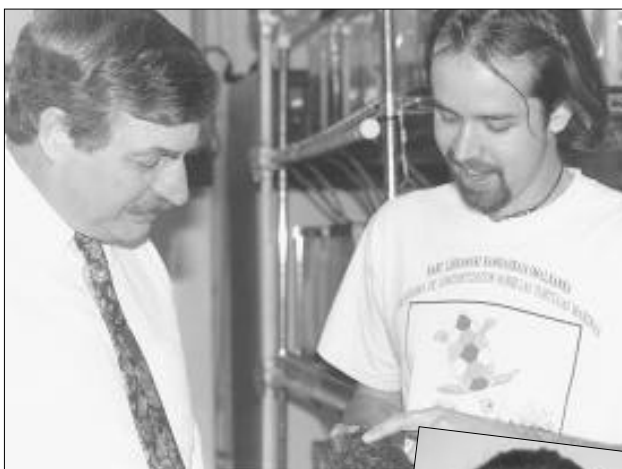
## Russ Hall Named Director at Science Center

**Dr. Russell J. Hall** has been appointed director of the USGS Florida-Caribbean Science Center, a biological research facility headquartered in Gainesville, Florida.

Dr. Hall, an ecologist, is responsible for the overall administration of the science center and several field stations, including the Sirenia Project in Gainesville, which leads Federal research efforts to sustain populations of the Florida manatee; a station in the U.S. Virgin Islands specializing in conservation of coral reefs; and several stations in the Everglades National Park and elsewhere in South Florida that have a leading role in scientific assessments related to the Everglades restoration project.

Prior to entering the Federal Government, Dr. Hall was an associate professor of Biology at Mansfield University in Pennsylvania for nine years. He became a research biologist at the Patuxent Wildlife Research Center in 1977, and subsequently conducted pioneering research on assessing the effects of environmental contaminants on amphibians and served as assistant director of the Center.

In 1989, he moved to U.S. Fish and Wildlife Service headquarters in Washington, D.C., where he was responsible for overall direction and guidance of national programs in wildlife research. The duties



Above, Russ Hall, director, Florida Caribbean Science Center; at left, discusses a project with toxicologist Shane Ruessler. At right is Carl Goodwin, Miami subdistrict chief.



of this position later transferred to the National Biological Service and the USGS. Dr. Hall was instrumental in guiding these transfers and helping create the new organizations.

## Goodwin Heads Miami Subdistrict

**Dr. Carl R. Goodwin** has been named as chief of the Miami Subdistrict Office of the USGS. He will be responsible for the overall administration of the Subdistrict Office and field stations in Forts Myers and Stuart.

Hydrologic investigations conducted under the auspices of this office include the determination of availability of water resources for growth-management planning, the assessment of seawater intrusion, and current research programs on hydrodynamic modeling of surface and ground water flow, and chemical solute transport. The Miami office has a significant role in water-related aspects of the USGS South Florida Ecosystem program that includes the Everglades.

Dr. Goodwin began his career with the USGS as a streamgager in Menlo Park, California. After participating in the graduate school training program, he transferred to Tampa, Florida, where he led a series of hydrodynamic modeling investigations.

During his 20 years in Tampa, he served on the Governor's Growth Management Council, chaired a task force on water-quality assessment for the Tampa Bay Regional Planning Council, and served on numerous technical advisory committees. From Tampa, he transferred to the Pacific Northwest as district chief for Washington, where he has expanded and strengthened the program. He will assume his new position in June.

## Everyone Lives Downstream

Steven D. Craigg

*Everyone Lives Downstream* is a new USGS publication that describes how human activities affect the water quality of the Chattahoochee River in the Metropolitan Atlanta area. Presented in a colorful and highly informative poster format, the publication was prepared by the USGS National Water-Quality Assessment Program in cooperation with the National Park Service's Chattahoochee River National Recreation Area.

These two Interior bureaus teamed with the Georgia Department of Natural Resources' Adopt-A-Stream Program, the Chattahoochee RiverKeeper, and the Georgia Water-Wise Council to design an educational product that displays sound scientific information in a nontechnical and understandable manner.

The poster is intended for a general audience that includes educators, citizens' groups, and government officials. The poster was unveiled at the Fifth Biennial Georgia Water Resources Conference at the University of Georgia on March 20-22, and received intense interest from

the scientific community, teachers, and the public.

The poster describes how the activities of intensive urbanization affect the water quality of the Chattahoochee River and its tributaries in the Metropolitan Atlanta area, and suggests how individuals can help solve point (specific) and non-point (diffuse) sources of pollution. The poster's attractive layout consists of informative nontechnical text, with nine accompanying factual-photo panels that describe the effects of population growth, erosion and sedimentation, urban runoff, phosphorus loads, sewage overflows, waterborne pathogens, toxic metals, pesticides, and PCBs and chlordane in fish.

The poster contains a colorful relief and land-use map highlighting the 20-county Metropolitan Atlanta area. There also is a map showing the



Chattahoochee River National Recreation Area in relation to locations of drinking water intakes, wastewater outfalls, and combined sewer overflows. An 1860 to 1996 timeline highlights selected events such as agriculture and mining developments, dam-building, water use scenarios, population trends, and various water-quality laws that have affected the development of the upper Chattahoochee River watershed.

Published as USGS Water-Resources Investigations Report 96-4302, *Everyone Lives Downstream Water-Quality Issues Related to Urban Development of the Upper Chattahoochee River Watershed* was created by **Daniel J. Hippe, Caryl J. Wipperfurth, Evelyn A. Hopkins, Elizabeth A. Frick, and David J. Wangsness**.

For further information about this innovative USGS poster, please contact **David J. Wangsness** at the U.S. Geological Survey, 3039 Amwiler Road, Peachtree Business Center, Suite 130, Atlanta, GA, 30360-2824; by telephone (770) 903-9156; or by email wangsn@usgs.gov. Copies of the poster are available from the U.S. Geological Survey, Branch of Information Services, Box 25286, Denver Federal Center, Denver, CO, 80225.



# Office of Surface Mining and Reclamation



Kathrine L. Henry, Acting Director  
Jerry Childress, Bureau Editor

*OSM geologist Robert Welsh uses a Global Positioning System receiver to locate a mine survey control point in relation to active mining operations in the State of Washington. OSM also uses the satellite-based GPS system to pinpoint the location of abandoned mine shafts and openings so they can be precisely mapped to reduce the hazard they present.*



## Nothing But Danger

### Abandoned Mines Have Nothing of Value But Plenty of Hazards

OSM has launched a public safety initiative to warn people, especially backpackers and back country explorers, to stay out of abandoned mines because of the deadly dangers lurking inside. The centerpiece of the effort is a brochure that OSM developed and is distributing nationwide, pointing out the hazards in the hundreds of abandoned mines across the United States.

"The brochure relays one very simple message: Keep Out—Old Mines Can Be Dangerous!", said **Acting Director Kathrine L.**

**Henry.** "In addition to the risk of cave-ins, abandoned underground mines conceal a multitude of other potentially lethal hazards, including deadly gases, poisonous snakes, loose rock, decaying mine timbers, and vertical shafts hidden within the tunnels."

Abandoned mines are nothing like naturally-formed caves that are attractive to recreational and professional explorers, and should never be mistaken as such, Henry warned. Mines and caves are two very different things.

"Hiking, exploring, and other outdoor activities are a source of enjoyment for millions of Americans, particularly during the spring and summer months," she explained. "But outdoor recreation also requires caution—especially near the hundreds of abandoned mines scattered over the American countryside."



"There is nothing of any value in an abandoned mine—that's why it was abandoned," Henry pointed out. "But there are any number of ways to lose your life in old mine workings. The safest thing to do is to stay completely out of them."

Henry noted that each year a number of persons are killed or injured in abandoned mines, usually because they do not know of the dangers. "We need all the help we can get in spreading the word about the dangers of abandoned mines," Henry said.

"For safety's sake, don't go looking for abandoned mines," she urged. "But if you find what you think is an abandoned mine shaft, tunnel, or other danger, mark the location so it can be easily spotted. Then report your find to the nearest OSM office, or the state reclamation office."

To obtain a copy of the brochure, contact the OSM Office of Communications, 1951 Constitution Avenue N.W., Washington, D.C. 20240, (202) 208-2719. The brochure is also available from OSM's Fax-on-Demand service at (202) 219-1703, and an illustrated version may be seen at OSM's World Wide Web site <http://www.osmre.gov>

## OSM Revises Rules on Mining Permit Authority

OSM has issued revised regulations clarifying the agency's authority to block coal mining permits for applicants who have previously violated the surface coal mining law and not corrected the problems those violations caused.

The revised rules are consistent with a recent federal appeals court decision that invalidated portions of OSM's mine ownership and control rules, Acting Director Henry said. Those rules defined ownership and control of mines and mining operations, prescribed the types of ownership and control information that permit applicants must provide, and set the procedures for dealing with permits that were improperly issued to applicants who are responsible for previous uncorrected violations.

"Consistent with the court's decision," Henry said, "these interim final rules put back on the books those portions of the regulations that were not judged to exceed OSM's legal authority. OSM plans to develop additional rule changes and provide



Kathrine L. Henry

ample opportunity for public review and comment on them."

"Appropriate rules are needed to carry out a major requirement of the surface mining law—keeping new permits out of the hands of people who are responsible for past mining operations where reclamation was not done or payment obligations were not met."

"Without such rules, it would be too easy for companies and individuals who didn't clean up after themselves and who owe the government money to get back into coal mining and harm the environment further, a situation that the surface mining law was designed to prevent," Henry said.

The interim final ownership and control regulations were printed in the Federal Register of April 21, 1997. Their effective date is April 3, 1997. Copies can be obtained from the OSM Applicant/Violator System Office, 1951 Constitution Avenue N.W., Washington, D.C. 20240, (202) 208-2883.

### Revised Acid Mine Drainage Policy Aims at Prevention

OSM has released a new policy statement that details its goals, objectives, and strategies for preventing, correcting, and controlling acid mine drainage at coal mine sites nationwide.

"Acid drainage from active and abandoned coal mines has already destroyed thousands of miles of streams nationwide," said Acting Director Henry. "While states and the mining industry have made progress in preventing acid mine drainage from active operations, not nearly enough has been done to abate damage. That makes these policy measures to prevent acid mine drainage all the more important for the future."

The statement clarifies and sets forth strategies to correct drainage from past coal mining operations and to prevent acid mine drainage at sites regulated under the Surface Mining Control and Reclamation Act, according to Henry.

The policy is based on 1) designing mines to prevent acid mine drainage; 2) monitoring operations during mining and reclamation to identify any corrective measures that may be needed to prevent or mitigate post-mining pollution; and 3) requiring accurate performance bonds to cover the full costs of acid mine drainage.

The agency's acid mine drainage efforts include the Appalachian Clean Streams Initiative, which focuses primarily on cleaning up acid and toxic mine drainage from abandoned mines. OSM also is a partner in the Acid Drainage Technology Initiative, led by the National Mine Land Reclamation Center at West Virginia University. The initiative concentrates on developing technology to eliminate acid mine drainage from future mining operations.

The policy statement was released in draft for public comment in May 1996. Copies of the policy statement may be obtained from Arthur Abbs, OSM Office of Program Policy, Washington, D.C. 20240, phone (202) 208-2651.

## Babbitt, Henry Address Ohio Group

**Secretary Babbitt** and Acting Director Henry recently spoke to the Ohio Mineland Partnership via video conference from Interior's studio in Washington, DC. The Ohio group met at sites in Columbus and Athens to hear Babbitt praise their partnership efforts, aimed at promoting responsible reclamation and wise use of mined lands and streams affected by acid mine drainage.

The Secretary cited clean streams projects at Ohio's Monday and Captina Creeks as an excellent example of Ohio doing it the right way—through partnership! Henry discussed the new OSM acid mine drainage policy and answered questions from the group to end the session.

*Copies of all OSM regulations, policy statements, and press releases are available from OSM's 24-hour Fax-On-Demand, (202) 219-1703, and from OSM's Homepage on the World Wide Web at: <http://www.osmre.gov>.*



Coral reefs, found in more than 100 countries, grow in tropical waters where the temperature is more than 70 degrees Fahrenheit throughout the year. The reefs are built by tiny coral polyps—simple animals that work together in huge colonies. Coral polyps are mostly soft stomach surrounded by a hard limestone skeleton and are equipped with stinging tentacles. When the animals die their skeletons—by the billions—add new layers of limestone to the reefs over the centuries.

# FRAGILE RINGS

## of Life

Nancy Boone Fanning

Tropical coral reefs are among the most productive, beautiful, and useful ecosystems on earth, benefiting coastal communities commercially, aesthetically, and environmentally.

But these fragile rings of life are under stress and in decline around the globe, due to natural and primarily to human forces, including population increases, shoreline development, siltation, pollution, over-fishing, and fishing with poisons and explosives that destroy coral habitat. About 10 percent of the world's coral reefs have been degraded beyond recovery. Another 20-30 percent are in peril over the next 10-20 years and another 30 percent could die within 20-40 years, according to the latest scientific estimates.

These reefs and their related seagrass beds and mangrove forests serve as critical spawning grounds for tens of thousands of plant and animal species. They produce and maintain commercially valuable species of fish and shell fish, protect coastal communities from storm damage and erosion, and provide tourism and recreational opportunities for shore towns.

The last decade has seen major advances in scientific understanding of this global pattern of reef decline, spawning a growing concern that unless action is taken to halt the trend, most of the world's coral reefs could be lost in the next half century. Designating 1997 as **The Year of the Reef** is an effort to focus public attention on the plight of these ecosystems and marshal efforts to save them.

“Their disappearance would destroy the habitat of countless species and unravel the web of marine life that holds the potential for new chemicals, new medicines, unlocking new mysteries,” **President Clinton** has said. “It would have a devastating effect on the coastal communities from Cairns to Key West, Florida—communities whose livelihoods depend upon the reefs.”

Since 1994, the Administration has supported both domestic and international efforts to protect and monitor these vital resources. The Coral Reef Initiative, launched that year by Under Secretary of

State **Tim Wirth**, seeks to protect, restore, sustain, and better understand coral reefs and related ecosystems. Its core programs help to identify the reefs at greatest risk and provide the technical and financial resources needed for improved management for these endangered ecosystems. Interior works on the initiative in cooperation with the Department of State, the Environmental Protection Agency, the National Oceanic and Atmospheric Administration, the National Science Foundation, and the Agency for International Development.

The International Coral Reef Initiative, which aims at concerted worldwide action, was developed by eight governments—the United States, the United Kingdom, Australia, France, Japan, Jamaica, the Philippines, and Sweden. The initiative has grown into a partnership with more than 75 countries, UN organizations, development banks, non-governmental organizations, and private sector-groups.

The 1995 International Coral Reef Workshop in the Philippines resulted in a Call to Action and Framework for Action. Six regional workshops then were organized to develop regional strategies to carry out the framework for action. Australia currently serves as the Secretariat for the International Coral Reef Initiative, a position the United States previously held.

To carry out the initiative's goals in the United States, the Federal Government has been working with the states of Hawaii, Florida, and Texas as well as the territories of American Samoa, Guam, Puerto Rico, the U.S. Virgin Islands, and the Commonwealth of the Northern Mariana Islands. Under the umbrella of the Common Agenda, the U.S. and Japanese governments and the Government of Palau are exploring the feasibility of establishing a coral reef research center in Palau. Formerly a U.S.-administered trust territory, Palau is now a freely associated state receiving U.S. technical and financial assistance.

*A reef wall in the Republic of Palau teems with corals, sea fans, and fish. Because of its extensive and biologically diverse reefs, Palau has been designated one of the seven underwater wonders of the world. Photo by Avi Klapper and drawings are from Portrait of Paradise, courtesy of Mandy Thijssen-Etpison*

## Year of the Reef—The Video Premier

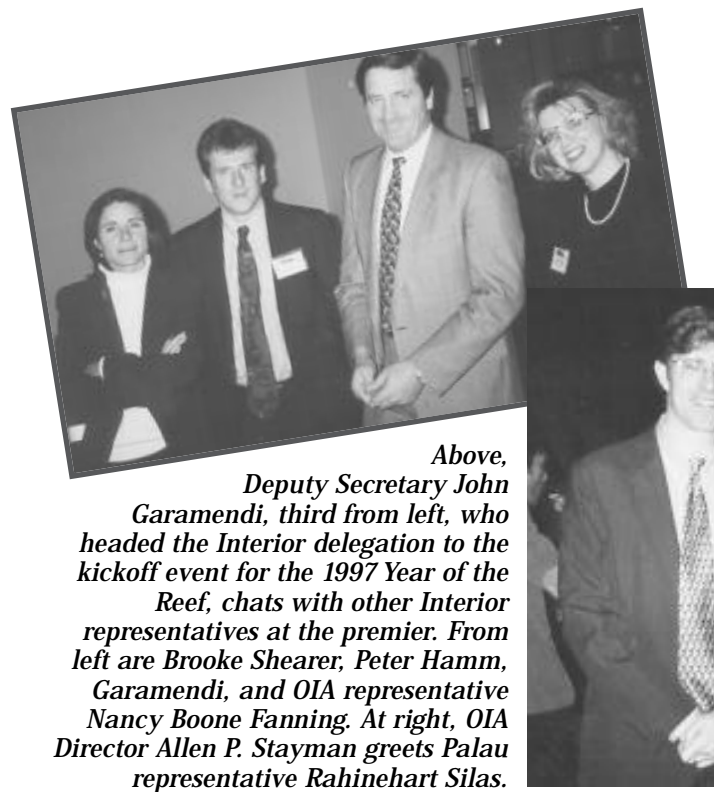
The Administration launched the 1997 International Year of the Reef by holding a premiere showing of the award-winning documentary film *The Fragile Ring of Life*. The film details the worldwide destruction of coral reefs and the efforts to save them.

The event was attended by more than 400 people, including Administration officials, foreign dignitaries, and private-sector representatives. The February 11 premiere was hosted by the Smithsonian Institute; US Information Agency; the Departments of the Interior, State, and Commerce; the National Technical Information Service/National Audiovisual Center; and the nonprofit organization Oceanwatch.

The film, which was produced by the U.S. Information Agency, Worldnet Television,

features seven areas—the Florida Keys, Palau, Jamaica, Sri Lanka, Egypt, Israel, and Jordan. The production was funded by the Office of Insular Affairs, Department of State, NOAA, AID, and EPA, initially for showing at the 1995 International Coral Reef Conference held in the Philippines.

The documentary has received numerous awards, including the National Geographic Society's Earthwatch Film Award, a Bronze World Medal at the New York Film Festival's international competition, and the CINE Golden Eagle Award to represent the United States at international festivals. By a special Act of Congress, the film is available for domestic and international distribution. OIA has a master tape that can be loaned to Public Affairs Offices for copying. Contact **Nancy Boone Fanning** at (202) 208-6816.



Above, Deputy Secretary John Garamendi, third from left, who headed the Interior delegation to the kickoff event for the 1997 Year of the Reef, chats with other Interior representatives at the premier. From left are Brooke Shearer, Peter Hamm, Garamendi, and OIA representative Nancy Boone Fanning. At right, OIA Director Allen P. Stayman greets Palau representative Rahinehart Silas.



# Coral Ecosystems in the U.S. Islands

Coral reefs in the **U.S. Virgin Islands** have been under great stress from devastating hurricanes in 1995 and 1996. Reef degradation also results from careless anchoring of vessels, soil erosion from inadequate construction techniques, and increased sedimentation from runoff during periods of heavy rainfall. The Virgin Islands Government Division of Fish and Wildlife and the U.S. National Park Service carry out active monitoring of the coral reefs. As part of its efforts for the International Year of the Reef, the Virgin Islands' Department of Planning and Natural Resources has begun intensive education and outreach programs to address the problems relating to coral reef destruction. The outreach program will focus on the boating, fishing, and construction industries. The education program will include the development of a video, radio spots, and releases to the television and print media to raise awareness.

**American Samoa's** coral reefs have been severely damaged in recent years by natural disasters and pollution. The reefs have also been hurt by coral bleaching and starfish infestation. As a result, the coral coverage around the main island of Tutuila has dropped from about 60 percent to 10 percent within the past two decades. **Tauese Sunia**, the governor of American Samoa, has issued a proclamation declaring 1997 as the Year of the Reef, calling for promoting greater understanding of the plight of coral reefs and urging all island peoples to unite in protecting the coral reefs.

American Samoa government agencies are developing regulations, guidelines, and educational

activities aimed at reducing commercial and private activities that are damaging the reefs. One of American Samoa's challenges has been to integrate western governmental processes with Samoa's traditional cultural approach of consensus decision-making. The American Samoa Coral Reef Initiative Task Force has developed a strategic action plan aimed at coral reef protection. They are now planning a workshop with off-island scientific experts to help formulate realistic management strategies.

**Guam's** coral reef ecosystem, with almost 400 species of corals and 700 species of fish, is one of the most diverse in the world. The Governor of Guam, **Carl Gutierrez**, issued a proclamation declaring 1997 as the Year of the Coral Reef—Taking Responsibility for Our Environment and Future. Guam has established a Coral Reef Initiative Policy Advisory Committee made up of public, non-government, and private-sector representatives to coordinate efforts and develop proposals to strengthen coral reef management.

Guam also has produced an educational video, *Coral Reefs: Their Health-Our Wealth*, aimed at middle school students. The Guam Coastal Management Program promotes public awareness on television and through newsletters. Three faculty members of the University of Guam's Marine Lab have collaborated on a book about the management of coral reef resources. The University is at the forefront of research on reefs and engaged in replanting corals and reseeding reefs, speeding the recovery of these damaged ecosystems.



Guam Lt. Governor Madeleine Bordallo, right, and Frank Torres Jr., the Washington representative of Guam's Governor, attend the kickoff of the 1997 Year of the Reef initiative.

The **Commonwealth of the Northern Mariana Islands** began its celebration of the International Year of the Reef in December 1996 when **Governor Froilan C. Tenorio** signed a proclamation declaring 1997 as the

Commonwealth's Year of the Coral Reef. A public-private-sector group was established to plan events for the year. Planned public awareness activities include a poster contest, mural paintings, and weekly articles for the newspaper. The group is developing a library of slides to be made available to teachers and government agencies. The Northern Marianas also will write a natural resources textbook that includes a component on reefs.

A year ago, the Northern Marianas' natural resource agencies formed an interagency Marine Monitoring Team that has been studying the health of Lau Lau Bay on Saipan, a popular dive site for tourists and locals and a popular reef fishing site. The team selected Lau Lau Bay as its first site because it is reportedly experiencing increasing sedimentation, perhaps from runoff from coral roads or clearing of highly erodable land adjacent to the bay. The team is establishing additional monitoring sites around Saipan and Tinian.



Interior agencies carry out a spectrum of activities and programs that promote the objectives of the Coral Reef Initiative. **The Fish and Wildlife Service** led the U.S. delegation to the Sixth Meeting of the Contracting Parties of the Ramsar Convention on Wetlands of International Importance. The delegation made a formal presentation on the Coral Reef Initiative at that March 1996 meeting. The Service also assists with the Florida Keys National Marine Sanctuary comprehensive management plan, comments on federally funded or permitted projects affecting coral reefs, and participates in the development of fishery management plans and regulations proposed by fishery management councils.

In addition, the Service manages a project on coral transplantation in Hawaii, conducts a coral reef resource damage assessment in Rose Atoll, American Samoa, and helps Puerto Rico and the U.S. Virgin Islands place buoys in sensitive coral reef habitats. The Service is also carrying out a black-lip pearl oyster and giant clam restoration project on Kwajalein Atoll in the Republic of the Marshall Islands. For more information about the Service's efforts, contact **Marshall Jones** at (202) 208-6393.



Above, representatives of the Republic of the Marshall Islands attending the premiere included, from left, Mayor James Matayoshi of Rongelap Atoll, Senator Johnsai Riklon, and Senator Henchi Balos. At right is Jonathan Weisgall, counsel for the Bikini Atoll Local Government.

**National Park Service** efforts include putting together a consortium of Caribbean coral reef managers to exchange information and share management policies and techniques to protect coral reef resources, participating on the South Florida Ecosystem Restoration Task Force, working with the Florida Keys National Marine Sanctuary in outreach and education programs, and developing a policy on sustainability.

NPS and the U.S. Geological Survey are jointly conducting coral reef monitoring programs for the Atlantic-Caribbean, with the core research focusing on natural and human disturbances to reefs around St. John in the U.S. Virgin Islands. With that scientific information, the Virgin Islands National Park developed an aggressive program to prevent reef anchor damage and protect sensitive reefs by minimizing use in those areas. The park also developed a much acclaimed reef-oriented puppet theater that is taken to schools and campgrounds.

NPS has established long-term coral reef and reef fish monitoring sites in the Virgin Islands National Park, Buck Island Reef National Monument, Dry Tortugas National Park, and Biscayne National Park. These monitoring efforts provide resource managers with urgently needed data about changes from natural and human-induced stresses so that managers can more effectively control detrimental activities. NPS also has produced a Coral Reef Monitoring Manual that was distributed to more than 500 individuals and agencies and used internationally as a resource document. Contact **Bob Karotko** at (202) 208-4298 for more information.

**The USGS Biological Resources Division**, with research centers and field stations in South Florida, the U.S. Virgin Islands, and Hawaii, is conducting integrated, long-term ecological research and monitoring of coral reefs and related systems to provide information to resource managers on the relationships among ecological function, biological diversity, and the effect of natural and human-induced disturbances on these ecosystems.

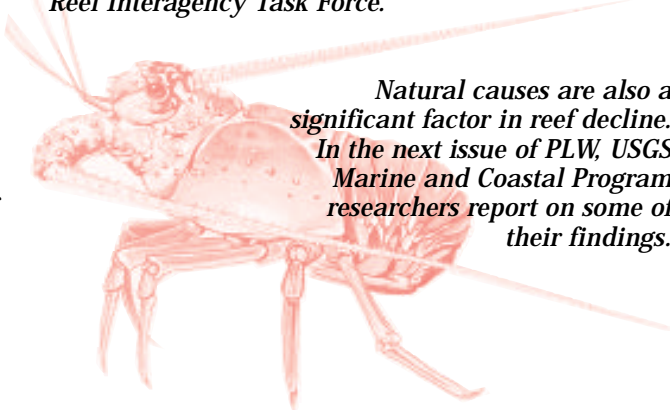
Specific activities include investigating the effects of watershed development on nearshore reefs and developing effective measures to control effects of sedimentation on marine resources in the Virgin Islands National Park, providing managers with

options to offset ecosystem changes on coral reef fish communities in the Florida Keys, determining the effect of global change on the mangrove-marsh interface in South Florida, investigating seagrass community ecology in Florida Bay, evaluating salinity relationships in Florida Bay, and conducting research on coral reef fish community structure and dynamics in Hawaii. For more information, contact **Karen Koltes** at (703) 648-4081.

**The Office of Insular Affairs** provided funds for workshops in the Pacific and Caribbean to help the U.S. insular areas of American Samoa, the Northern Mariana Islands, Guam, and the U.S. Virgin Islands prepare plans of action to implement the objectives of the Coral Reef Initiative. OIA and the National Oceanic and Atmospheric Administration have committed to jointly fund a number of education and outreach projects identified in the plans of action. OIA also provides funds to the Seagrass Program at the University of Hawaii for coral reef projects in the Pacific insular areas. OIA contact—**Nancy Boone Fanning** at (202) 208-6816.

**The Minerals Management Service** has supported intensive study of the East and West Flower Garden Banks in the Gulf of Mexico. The studies have provided information essential to the environmentally sound management of these coral reef habitats that have been designated a national marine sanctuary. A cooperative effort between MMS and the National Marine Sanctuary Program to monitor the health of the banks and possible effects of offshore natural gas and oil operations continues. (An MMS survey of marine life on the Sonnier Banks in the Gulf of Mexico is on page 25.) The MMS contact on the coral reef initiative is **Thomas Ahlfeld**, who can be reached at (703) 787-1711.

Nancy Boone Fanning leads the policy team at the Office of Insular Affairs and co-chairs the U.S. Coral Reef Interagency Task Force.



Natural causes are also a significant factor in reef decline. In the next issue of PLW, USGS Marine and Coastal Program researchers report on some of their findings.